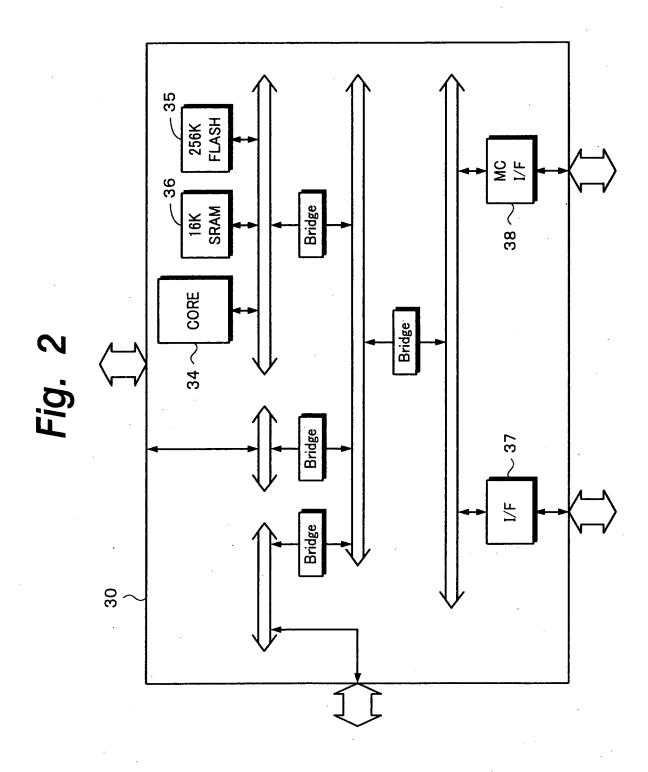
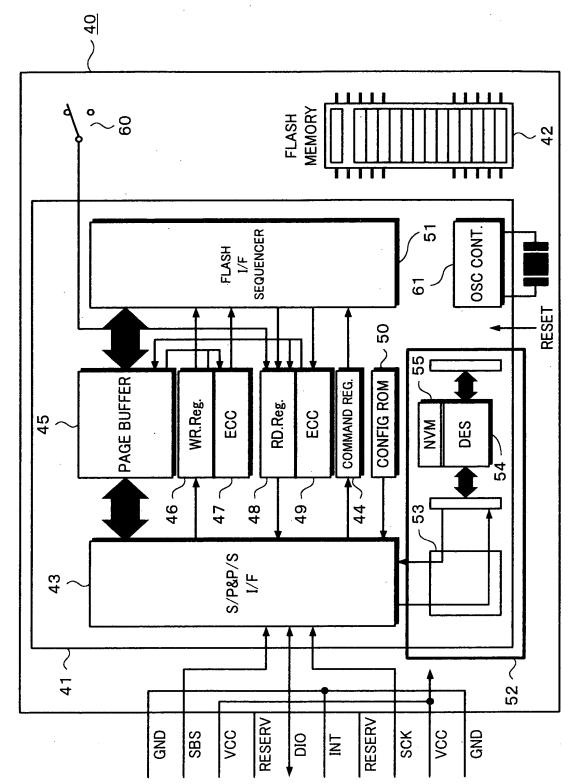


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APPLICATION PROCESS

FILE MANAGEMENT PROCESS

LOGICAL ADDRESS
MANAGEMENT

PHYSICAL ADDRESS MANAGEMENT

FLASH MEMORY ACCESS

FILE SYSTEM PROCESS HIERARCHY

Fig. 5

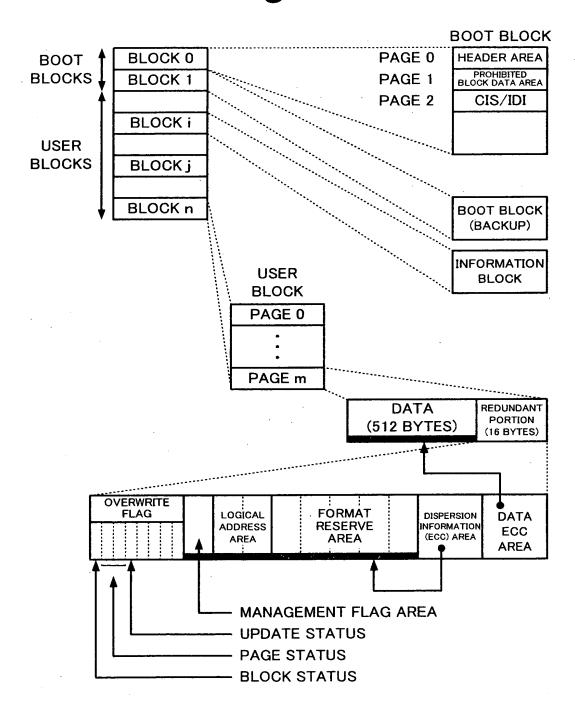
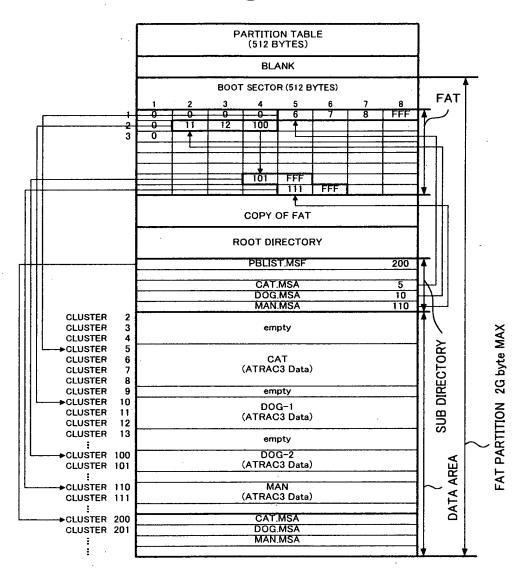


Fig. 6



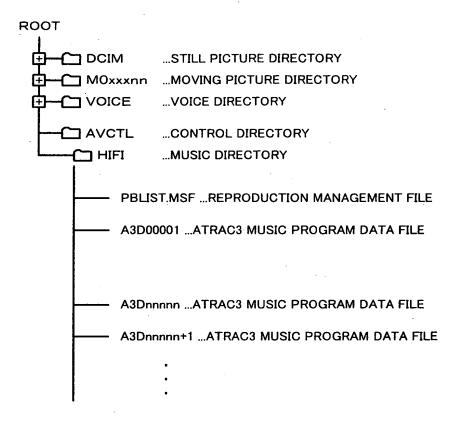


Fig. 8

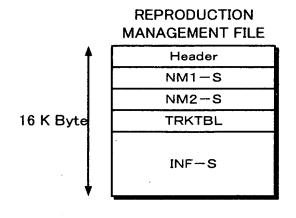


Fig. 9

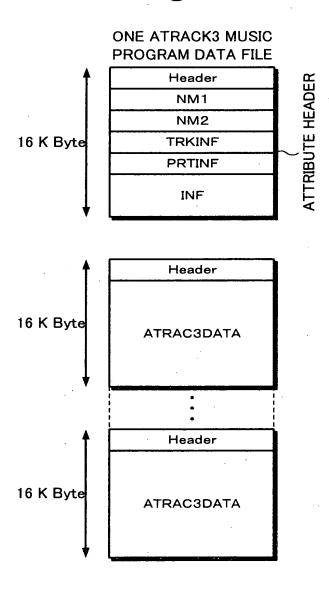


Fig. 10A

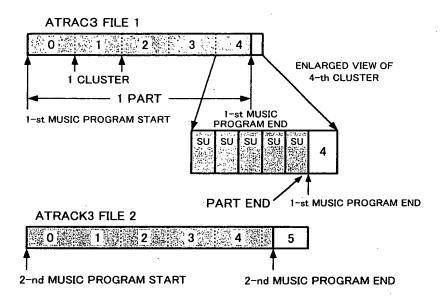


Fig. 10B

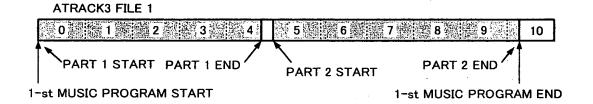
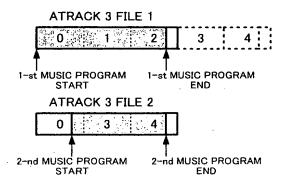


Fig. 10C



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	LL.						Γ			œ	9	· · · · · · ·	0		П
	Ш	rved							S-YMDhms	TRK-008	TRK-016		TRK-400		rved
	Δ	Reserved	pə						MY-	201	15		66		Reserved
	ပ		Reserved				CONTENTSKEY	Ų	S	TRK-007	TRK-015		TRK-399		
$\overline{}$	Ш						Z EN	MAC		90	14		86		П
REPRODUCTION MANAGEMENT FILE (PBLIST)	∢	SION					000			TRK-006	TRK-014		TRK-398		SION
FILE	o	REVISION	0							90	13	,	16		REVISION
EMENT	∞ _	4	VerNo							TRK-005	TRK-013		TRK-397		
NAG	7	0	¥							04	12		96		
TION MA	9	MCode	T-TRK			·			rved	TRK-004	TRK-012		TRK-396		MCode
.ona	5	рe	ZE						Reserved	03	11		95		Pa
REPRO	4	Reserved	SINFSIZE				peva	erved		TRK-003	TRK-011		TRK-395		Reserved
	က		구				Reserved	Reserved		02	10		94		
	2	-TL0	SN2C+L	(9	<u></u>					TRK-002	TRK-010		TRK-394	(0;	-TL0
	-	BLKID-		(256	(512								\vdash	1472	BLKID-TL0
	0	BL	SN1C+L	NM1-S(256)	NM2-S(512					TRK-001	TRK-009		TRK-393	INF-S(14720)	BL
		لــا											Ľ		لا
		0000X0	0X0010	0X0020	0X0120		0X0320	0X0330		0X0350			0990X0	0X0647	0X3FF0
									,		٦۶	TRKTE		,	
				,											

		_	0 1 2 3	4 5	6 7	6 8	A	С	П
Fig 10A	101	0000X0	BLKID-TL0	Reserved	MCode	REVISION	NOI	Reserved	rved
S		0X0010	SN1C+L SN2C+L	SINFSIZE	T-TRK	VerNo		Reserved	
		0X0020	NM1-S(256)						
		0X0120	NM2-S(512)						
		0X0320	Res	Reserved			CONTENTSKEY	ITSKEY	
		0X0330	Res	Reserved			MAC	Ų	
				Reserved	rved			S-YMDhms	Dhms
		0X0350	TRK-001 TRK-002	TRK-003	TRK-004	TRK-005	TRK-006	TRK-007	TRK-008
Fig.	10B	0X0360	TRK-009 TRK-010	TRK-011	TRK-012	TRK-013	TRK-014	TRK-015	TRK-016
5	7								
		0990X0	TRK-393 TRK-394	TRK-395	TRK-396	TRK-397 1	TRK-398	TRK-399	TRK-400
		0X0670	INF-S(14720)						
		0X3FF0	BLKID-TL0	Reserved	MCode	REVISION	ION	Reserved	rved
			0 1 2 3	4 ი	2 9	о 8	8	CD	7
			INF 0x00 ID 0x00	SIZE	MCode	C+L R	eserved D/	Reserved DATA VARIABLE LENGTH	LE LENGTH
Fig 12C	100								
ָ הַ)								

ID	MUSIC INFORMATION (CHARACTERS)		ID	URL INFORMATION (WEB INFORMATION)	
0	RESERVED		32	RESERVED	
1	ALBUM	VARIABLE	33	ALBUM	VARIABLE
2	SUBTITLE	VARIABLE	34	SUB TITLE	VARIABLE
3	ARTIST	VARIABLE	35	ARTIST	VARIABLE
4	CONDUCTOR	VARIABLE	36	CONDUCTOR	VARIABLE
5	ORCHESTRA	VARIABLE	37	ORCHESTRA	VARIABLE
6	PRODUCER	VARIABLE	38	PRODUCER	VARIABLE
7	PUBLISHER	VARIABLE	39	PUBLISHER	VARIABLE
8	COMPOSER	VARIABLE	40	COMPOSER	VARIABLE
9	SONG WRITER	VARIABLE	41	SONG WRITER	VARIABLE
10	ARRANGER	VARIABLE	42	ARRANGER	VARIABLE
11	SPONSOR	VARIABLE	43	SPONSOR	VARIABLE
12	СМ	VARIABLE	44	СМ	VARIABLE
13	GUIDE	VARIABLE	45	GUIDE	VARIABLE
14	ORIGINAL MUSIC PROGRAM TITLE	VARIABLE	46	ORIGINAL MUSIC PROGRAM TITLE	VARIABLE
15	ORIGINAL ALBUM TITLE	VARIABLE	47	ORIGINAL ALBUM TITLE	VARIABLE
16	ORIGINAL MUSIC PROGRAM COMPOSER	VARIABLE	48	ORIGINAL MUSIC PROGRAM COMPOSER	VARIABLE
17	ORIGINAL MUSIC PROGRAM SONG WRITER	VARIABLE	49	ORIGINAL MUSIC PROGRAM SONG WRITER	VARIABLE
18	ORIGINAL MUSIC PROGRAM ARRANGER	VARIABLE	50	ORIGINAL MUSIC PROGRAM ARRANGER	VARIABLE
19	ORIGINAL MUSIC PROGRAM PERFORMER	VARIABLE	51	ORIGINAL MUSIC PROGRAM PERFORMER	VARIABLE
20	MESSAGE	VARIABLE	52		
21	COMMENT	VARIABLE	53		
22	WARNING	VARIABLE	54		
23	GENRE	VARIABLE	55		
24			56		
25			57		
26			58		
27			59		
28			60		
29			61		
30			62		
31			63		

ID	PATH/OTHERS		ID	CONTROL/NUMERIC DATA INFORMATION	
64	RESERVED		96	RESERVED	<u> </u>
65	PATH TO VIDEO DATA	VARIABLE	97	ISRC	8
66	PATH TO SONG DATA	VARIABLE	98	TOC ID	8
67	PATH TO MIDI DATA	VARIABLE	99	UPC/JAN	7
68	PATH TO GUIDE DATA	VARIABLE	100	RECORDED DATE (YMDnms)	4
69	PATH TO COMMENT DATA	VARIABLE	101	RELEASED DATE	4
70	PATH TO CM DATA	VARIABLE	102	ORIGINAL MUSIC PROGRAM RELEASED DATE (YMDhms)	4
71	PATH TO FAX DATA	VARIABLE	103	RECORDED DATE (YMDhms)	4
72	PATH TO COMMUNICATION DATA 1	VARIABLE	104	SUB TRACK	4
73	PATH TO COMMUNICATION DATA 2	VARIABLE	105	AVERAGE VOLUME LEVEL	1
74	PATH TO CONTROL DATA	VARIABLE	106	RESUME	4
75			107	REPRODUCTION LOG (YMDhms)	4
76			108	NUMBER OF REPRODUCTION TIMES (FOR LEARNING)	1
77			109	PASSWORD 1	· 16
78			110	APPLevel	16
79			111	GENRE CODE	1
80			112	MIDI DATA	
81			113	THUMB NAIL PHOTOGRAPH DATA	
82			114	TEXT MULTIPLEXED BROADCAST DATA	
83			115	NUMBER OF TOTAL MUSIC PROGRAMS	
84	·		116	SET NUMBER	
85			117	NUMBER OF TOTAL SETS	
86			118	REC POSITION INFORMATION - GPS	VARIABLE
87			119	PB POSITION INFORMATION - GPS	VARIABLE
88			120	REC POSITION INFORMATION - PHS	VARIABLE
89	• •		121	PB POSITION INFORMATION - PHS	VARIABLE
90			122	CONNECTION DESTINATION TELEPHONE NUMBER 1	VARIABLE
91			123	CONNECTION DESTINATION TELEPHONE NUMBER 2	VARIABLE
92			124	INPUT VALUE	VARIABLE
93			125	OUTPUT VALUE	VARIABLE
94			126	PB CONTROL DATA	VARIABLE
95	·		127	REC CONTROL DATA	VARIABLE

ID	SYNCHRONOUS REPRODUCTION INFORMATION	
128	RESERVED	
129	SYNCHRONOUS REPRODUCTION INFORMATION 1	VARIABLE
130	SYNCHRONOUS REPRODUCTION INFORMATION 2	VARIABLE
131	SYNCHRONOUS REPRODUCTION INFORMATION 3	VARIABLE
132	SYNCHRONOUS REPRODUCTION INFORMATION 4	VARIABLE
133	SYNCHRONOUS REPRODUCTION INFORMATION 5	VARIABLE
134	SYNCHRONOUS REPRODUCTION INFORMATION 6	VARIABLE
135		
136		
137		
138	EMD INFORMATION 1	VARIABLE
139	EMD INFORMATION 2	VARIABLE
140		
141		
142		
143		
144		
145		
146		
147		
148		
149		
150		
151		
152		
153		
154		
155		
156		
157		
158		
159		

Fig. 16A

0	•	_	•	. •	6 7	•	•		_	•		_	•
IN	0x00	ID	0x00	SIZE	Mcode	C+L		Reseve	ed	VARIA	BLE I	ENGT	H

Fig. 16B

ID		ART	rist	SI	ZE		AS	CII E	NGLI	SH	-	1	DATA	.	
0x69	0x00	3	0x00	0x10	(28)	Мс	ode	0x01	0x09	0x00	0x00	S	I	М	0
N	&	G	R	Α	F	U	N	κ	E	L	0x00				

Fig. 16C

							ID		ISRC	
SIZE	Bil	NARY	NOT	SET			0×69	0x00	97	0x00
0x14(20)	Mcode	0x00	0x00	0x00	0x00	ISRC Co	de 8t	yte		
_						DATA			,	•

Fig. 16D

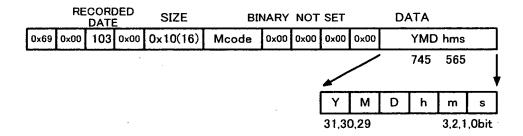
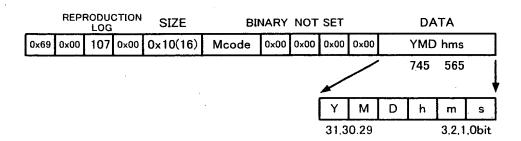


Fig. 16E



A3Dnnnnn.MSA(ATRAC3 DATA FILE)

	0 1	2 3	3 4 5	6	7 8	9	Α	В	С	D	Е	F
0x0000	BLKID-	-HD0	Reserved	MCode		Resev			BL	OCK S	ERIA	L
0x0010	N1C+L	N2C+L	INFSIZE	T-PRT		T-SI	Ĵ		IN	X	XT	
0x0020	NM1(256)					,						
•				·								
0x0120	NM2(512)											
0.0040		·							-			
0x0310 0x0320			1/0\	 			0011	F	TOK	- ·		-
UXU3ZU			rved(8) rved(8)				CON	MAG		E 1		
		Rese		red(12)				IVIA	AT	LT	FNo	
			1/6261	MG(D)SE	RIAL -	nnn			\sim 1	<u> </u>	1 140	_
0x0360	CONN	IUM	YMDh	ms-S		MDhm	s-E	Ti	иΤ	CTI	cc c	N
0x0370	PRTS			PRTK					Res	erved(
0x0380			CON	0MUV	PRTS	SIZE(0	×0388			PRTK		
0x0390				Rese	rved(8)	·			C	CONNU	JMO	
	INF(0x0400	0)										
			i									
0x3FFF	BLKID-	-HD0	Reserved	MCode	1	Resev			DI (OCK S	EDIA	
0x4000	BLKID-		Reserved	MCode		ONNL		+		OCK S		
0x4010	BEIGE		K SEED	WOOde	 			TIO		CTOF		_
0x4020	· · · · · ·				<u> </u>						•	
			SI	J-000(Nb	yte=384	4byte)	ı					
						•						
0x41A0												
				SU-00	1(Nbyte	e)						
						 						
0x4320	•											
				SU-00	2(Nbyte	e)						
0x04A0												
0.7040				SU-04	1(Nbyte	e)						
0x7DA0	· · · · · ·											
0x7F20			Re	served(NI	byte=20	8byte)					
UXIFZU		BL OC	K SEED		7							
0x7FF0	BLKID-		Reserved	MCode	C	ONNL	IMO	· T	BI (ock s	FRIA	\neg
٠٠ و ا	DEMO	,100	110361 VCU	1410006		5,4140				- 0.11 0		

0 1 2 3 4 5 6 7 8 9 A B C D E F

0x0000	BLKID	-HD0	Reserved	MCode	Reseved	BLOCK	SERIAL
0x0010	N1C+L	N2C+L	INFSIZE	T-PRT	T-SU	INX	XT
0x0020	NM1(256)						
		•					
0x0120	NM2(512)						
0x0310							

Fig. 19

0x0320	Rese	rved(8)	CONT	ENTSK	ŒΥ		
<u> </u>	Rese	rved(8)	N	//AC			
ſ		Reserved(12)		Α	LT	F١	V O
Ī		MG(D)SE	RIAL-nnn				
0x0360	CONNUM	YMDhms-S	YMDhms-E	MT	СТ	CC	CN

Fig. 20

bit7:MODE OF ATRAC3 0:Dual 1:Joint bit6,5,4 N OF 3 BITS:MODE VALUE

N	MODE	TIME	TRANSMISSION RATE	SU	BYTES
7	HQ	47min	176kbps	31SU	512
6		58min	146kbps	38SU	424
5	EX	64min	132kbps	42SU	384
4	SP	81min	105kbps	53SU	304
3		90min	94kbps	59SU	272
2	LP	128min	66kbps	84SU	192
1	mono	181min	47kbps	119SU	136
0	mono	258min	33kbns	169SU	96

bit3:Reserved

bit2:DATA TYPE 0:AUDIO 1:OTHER

bit1:REPRODUCTION SKIP 0:NORMAL REP 1:SKIP

bit0:EMPHASIS 0:OFF 1:ON(50/15 μ S)

bit7 :COPY PERMISSION 0:COPY PROHIBITION 1:COPY PERMISSION

bit6 :GENERATION 0:ORIGINAL 1:FIRST OR LATER COPY GENERATION

HCMS bit5-4 :COPY CONTROL FOR HIGH SPEED DIGITAL COPY

00:COPY PROHIBITION 01:COPY FIRST GENERATION 10:COPY PERMISSION COPY OPERATION OF CHILD OF FIRST COPY GENERATION IS PROHIBITED.

bit3-2 MagicGate AUTHENTICATION LEVEL

00:Level10(Non-MG)

01:Level1

10:Level2

11:Reserved

DIVIDE AND COMBINE ARE PROHIBITED IN OTHER THAN LEVEL 10.

bit1,0 Reserved

Fig. 22

0×0370	PRTSIZE	PRTI	ŒY	Reserved(8)
0x0380		CONNUM0	PRTKEY	
0x0390		Rese	CONNUM0	

0x4000	BLKID-A3D	Reserved	MCode	CONNUM0	BLOCK SERIAL			
0x4010	BLOC	K SEED		INITILIZATION VECTOR				
0x4020								
		SU-000(Nbyte=384byte)						

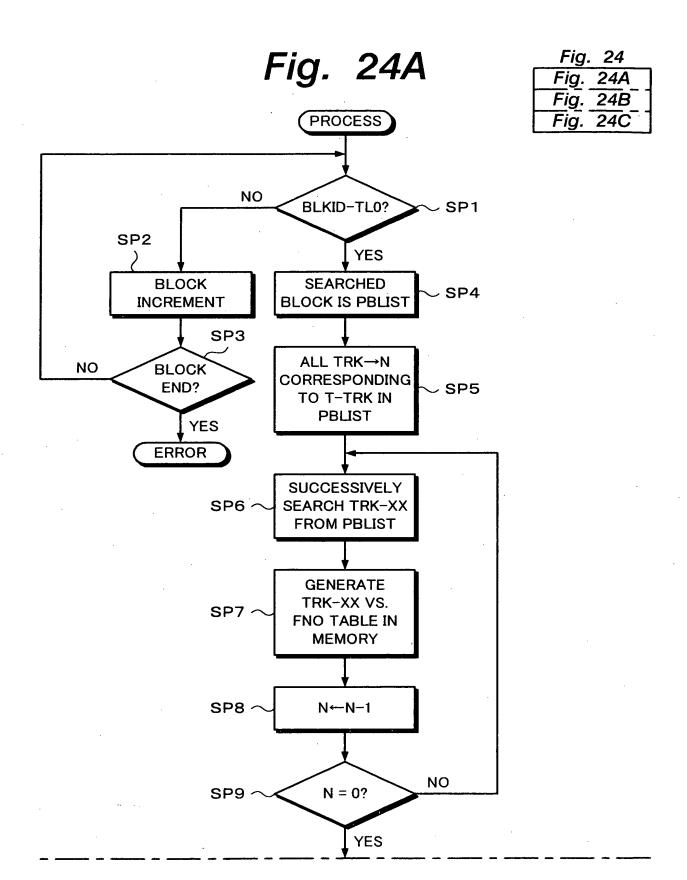


Fig. 24B

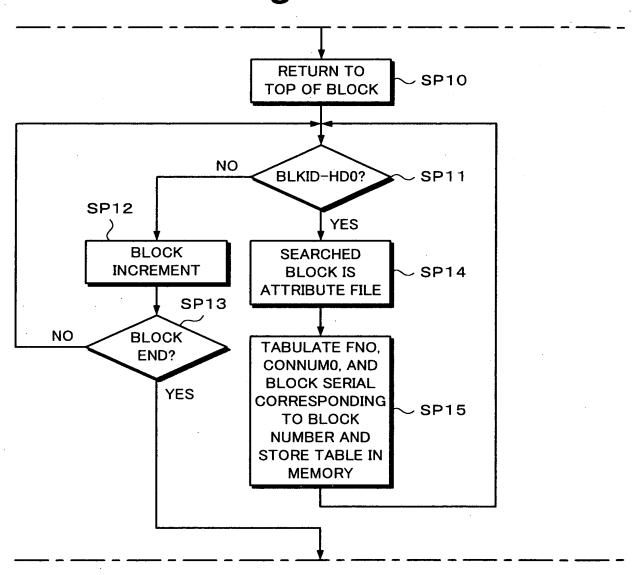
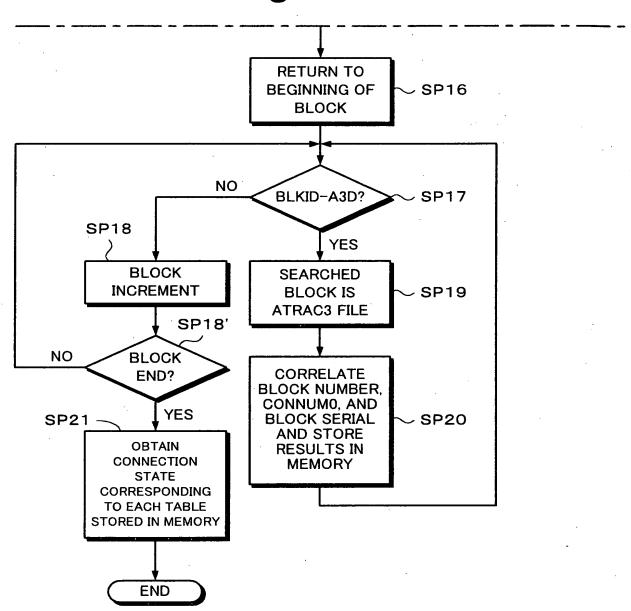


Fig. 24C



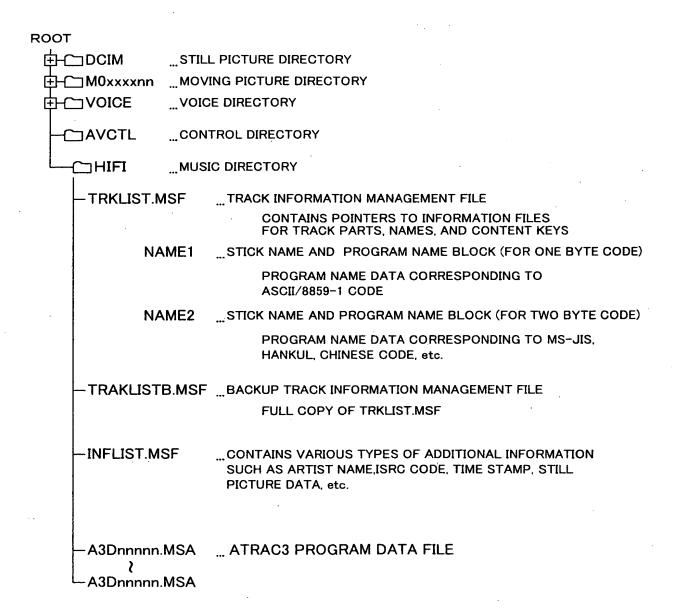
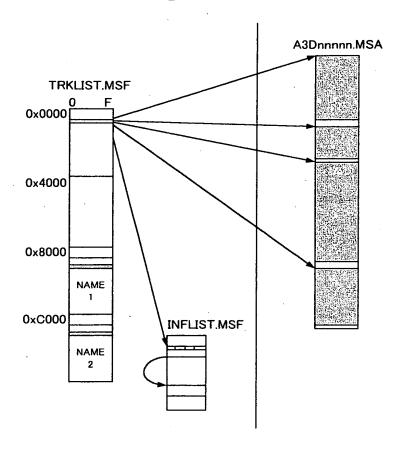


Fig. 26



TRACK INFORMATION MANAGEMENT FILE (TRKLIST.MSF)

	0	1	2	3	4	5	6	7	8	9	Α	В	С	D	Ε	F
0x0000	ВІ	_K II)–Tl	_0	T-1	ΓRK	MC	ode	F	REVI	SIO	N	Y	ΜD	h m	s
0x0010	N1	N2	MS	SID	S-1	ΓRK	РА	SS	Αſ	ЭP	INF	- -s	S_	YME	hn	ns
0×0020	TRKINF-001															
							PF	TIN	F-0	01						
							TF	KIN	ıF−0	02						
				• • • • • •			PF	TIN	F-0	02						
•									,)	-				•		
0x3FF0	Вι	K I)-TL	_0			МС	ode	F	REVI	SIO	N				
0×4000	Bl	_K IC)–Tl	_1			МС	ode	F	REVI	SIO	N				
	\$															
				DE	TAIL	_ OF	TRI	KINF	-nn	ın/P	RTI	NF-i	าทท			
	0	1	2	3	4	5	6	7	8	9	Α	В	С	D	Е	F.
	T0	LT	IN	F	F	FNM	-nnn			CC	NTI	ENT	S KE	Y-n	nn	
			-nn	n	MG(D) SE			ERIAL-nnn								
	4	PP_	CTL	-	СО	NNL	JM-r	nn	P-ı	nnn	×	Т		INX-	nnn	
·	ΥI	MDh	ms-	S	Υ	MDh	ms-	E	МТ	СТ	cc	CN	F	Rese	rvec	ŀ
	PR		A-0	000	PR	TSIZ	E-00	000			PR	TKE	Y-00	000		
						_										
	PR		A-n	nnn	PR	TSIZ	E-ni	nnn	annine.		PR	TKE	Y−nı	nnn	(25.000Za)	
0x7FF0	Bl	K I)–TL	_1			MC	ode	F	REVI	SIO	N				

Fig. 28

STICK NAME AND PROGRAM NAME BLOCK-FOR ONE BYTE CODE

	0	1	2	3	4	5	6	7
0x8000		BLK I	D-NM1				MC	ode
0x8008		PNN	11-S			PNM1	1-001	
0x8010		PNM	1-002			PNM1	I - 003	
				(•			
0×8668		PNM	I-408		NM1	-S		
	NM1-001 NM1-002 NM1-003 S NM1-408							·
0xBFF0								
0xBFF8		BLK I	D-NM1				MC	ode

Fig. 29

STICK NAME AND PROGRAM NAME BLOCK-FOR TWO-BYTE CODE

	0	1	2	3	4	5	6 7		
0xC000		BLK ID	-NM2				MCode		
0xC008		PNM	2-S			PNM	2-001		
0xC010		PNM2	-002		PNM2-003				
					5				
0xC668		PNM2	-408		NM2	?-S			
			NM2-0	001					
			NM2-0	002					
	NM2-003								
			5						
			NM2-4	801					
0xFFF0									
0xFFF8		BLK ID	-NM2				MCode		

ATRAC3 DATA FILE (A3Dnnnnn.MSA) · · · 1 SoundUnit=N BYTES

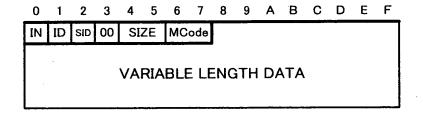
	0	1	2	3	4	5	6	7			
0x0000	BLK ID-A3D MCoo										
0x0008	BLOCK SEED										
0x0010	CONNUMO BLOCK SERIAL										
0x0018		INITILIZATION VECTOR									
0×0020	SU-000 (N byte)										
0x0020 +N/8			S	SU-001	(N þyte)					
			S	SU-002	(N byte)					
							····				
				()						
í				•							
	SU-(nnn-1) (N byte)										
0x3FF0 -N/8											
-IN/ 6			R	eserved	(M byte	э)		٠.			
0x3FF0				BLOCK	SEED		;				
0x3FF8		BLK IC)-A3D				MC	ode			

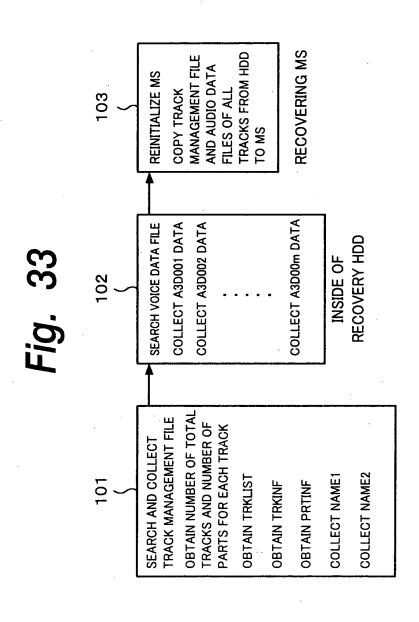
ADDITIONAL INFORMATION MANAGEMENT FILE (INFLIST.MSF)

	0 1 2	3 4 5 6 7	7 8 9 A E	CDEF				
0x0000	BLK ID-INF	T-DAT MCode	YMDhms	INF-409				
0x0010	INF-001	INF-002	INF-003	INF-004				
0x0020	INF-005	INF-006	INF-007	INF-008				
	5	5	5	5				
0x0660	INF-405	INF-406	INF-407	INF-408				
0x07F0	Reserved							
0x0800	DataSlot-0000							
0x0810	DataSlot-0001							
	\							
			·					
0x3FF0	DataSlot-03 7F(895dec)							
0×4000		DataS	lot-03 8 0					
	!	DataSlot-FFFF	MAXIMUM VAL	ue) I				

Fig. 32

ADDITIONAL INFORMATION DATA STRUCTURE





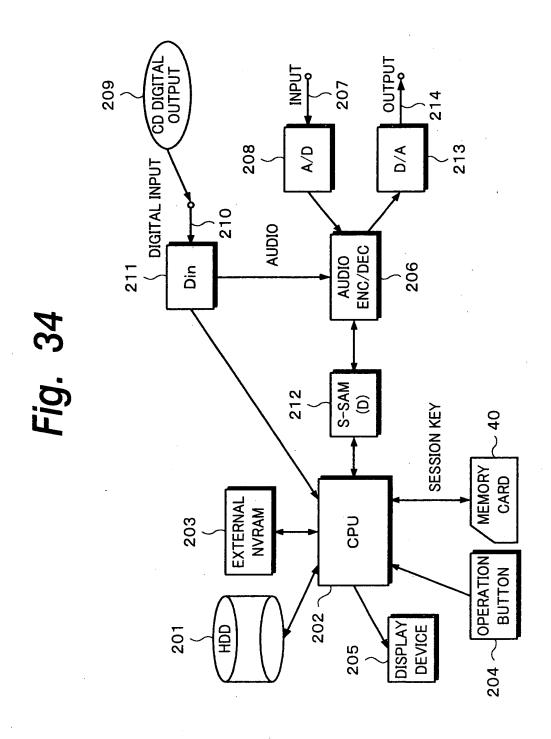
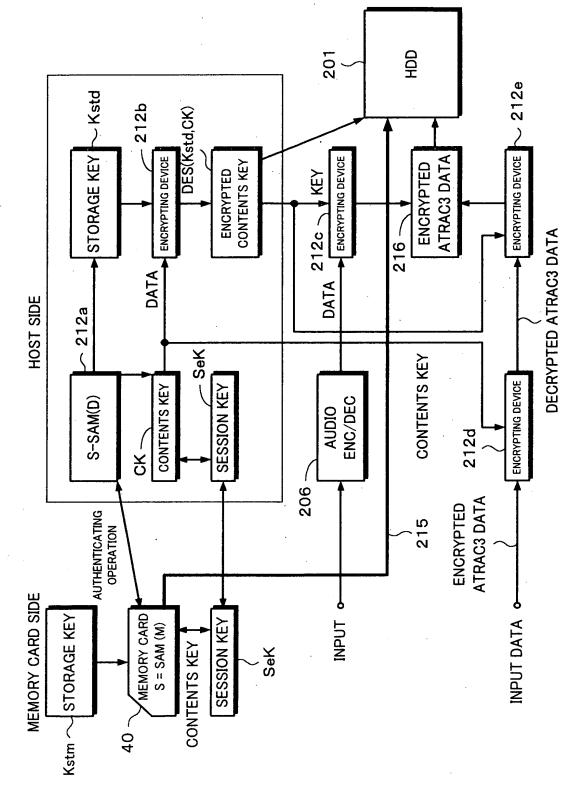
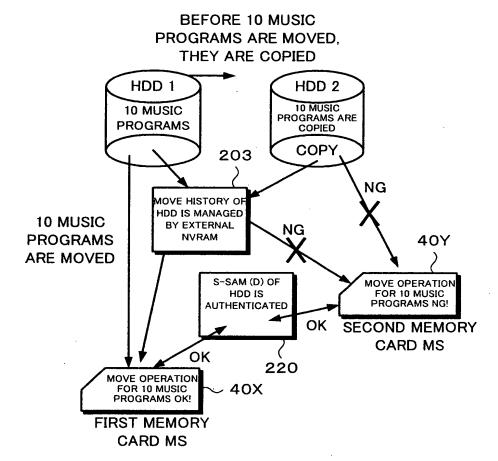
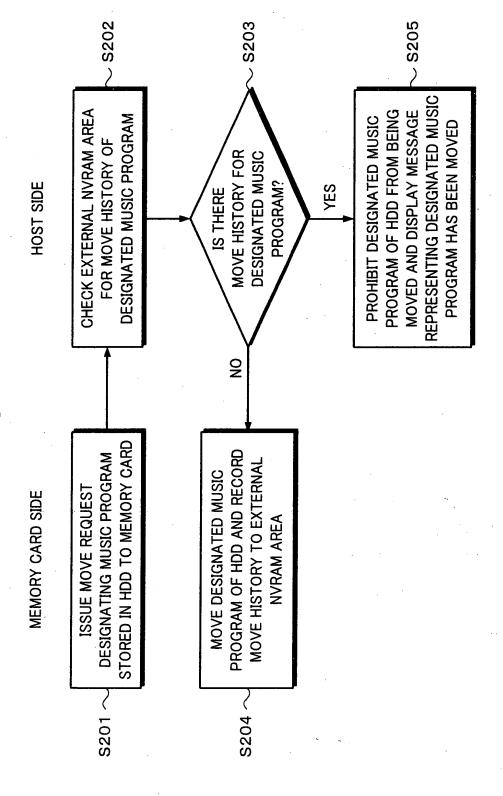


Fig. 35









10	AUDIO ENCODER/DECODER IC
20	SECURITY IC
30	DSP
40	MEMORY CARD
42	FLASH MEMORY
52	SECURITY BLOCK
PBLIST	REPRODUCTION MANAGEMENT FILE
TRKLIST	TRACK INFORMATION MANAGEMENT FILE
INFLIST	ADDITIONAL INFORMATION MANAGEMENT FILE
A3Dnnn	AUDIO DATA FILE